

- a collector layer made of silicon;
- an emitter layer made of silicon;
- a base layer made of doped silicon germanium;

wherein carbon is incorporated in at least one of the collector layer, emitter layer and base layer in a concentration of from 10^{18} cm^{-3} to 10^{21} cm^{-3} , the width of the base layer from the collector layer to the emitter layer is between 5 nm and 60 nm, the concentration of germanium in the base layer is in the range of from 8 % to 30 %, and the product of the germanium concentration in the base layer and the width of the base layer from the collector layer to the emitter layer is in the range of 50 atomic % *c513RC nm to less than 1500 atomic % C nm.

15. (New) The transistor of claim 14, wherein the product of the germanium concentration in the base layer and the width of the base layer from the collector layer to the emitter layer is in the range of 50 atomic % C nm to 660 atomic % C nm.

16. The transistor of claim 14, wherein the product of the germanium concentration in the base layer and the width of the base layer from the collector layer to the emitter layer is in the range of 520 atomic % C nm to 660 atomic % C nm.

17. The transistor of claim 14, wherein the width of the base layer from the collector layer to the emitter layer is from about 35 nm to about 40 nm.

18. The transistor of claim 14, wherein the concentration of germanium in the base layer is in the range of 20 % to 28 %.

19. The transistor of claim 14, wherein the concentration profile of germanium

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along the base layer between the emitter layer and the collector layer has the shape of a rectangle.

20. The transistor of claim 14, wherein the concentration profile of germanium along the base layer between the emitter layer and the collector layer has the shape of a triangle.

21. The transistor of claim 14, wherein the concentration profile of germanium along the base layer between the emitter layer and the collector layer has the shape of a trapezoid.

22. The transistor of claim 14, wherein the base layer is doped with boron in a concentration from about $5 \times 10^8 \text{ cm}^{-3}$ to about 10^{21} cm^{-3} .

Remarks.

By their above amendment Applicants have eliminated certain typographical errors from their specification, and by substituting nine (9) new claims for their original thirteen (13) claims they have avoided the objections raised by the Examiner against the latter under 35 U.S.C. 112, second paragraph, as well as 35 U.S.C. 102. (In this connection, the Examiner's objection against the alleged dependency of claim 5 from one or more of the preceding claims is not understood as Applicants had by their preliminary amendment eliminated the multiple dependency clauses from all amended PCT-filed claims, including claim 5, which had such clauses.) As newly presented, Applicants' claims particularly point out and distinctly claim the subject matter which they regard as their invention. In particular, any reference to an epitaxial layer has been eliminated, and the objections under points 5, 6 and 7 have been rendered moot by the new claims.